DOCUMENT RESUME

ED 300 997 EC 211 293

AUTHOR Miller, Ronald C.; And Others
TITLE State Incentive Grant To Improve Pupil Performance (High School Component) 1986-87. Final Report. OEA Evaluaton Report.
INSTITUTION New York City Board of Education, Brooklyn. Office of Educational Assessment.
PUB DATE Oct 87
NOTE 42p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Graduation Requirements; High Schools; *Inservice Teacher Education; Knowledge Level; Mainstreaming; *Mild Disabilities; Program Evaluation; Special Education Teachers; Teaching Methods; *Workshops
IDENTIFIERS New York (New York)

ABSTRACT

The report documents the evaluation of a New York City program, the State Incentive Grant to Improve Pupil Performance, in which high school special education teachers received training in general education curriculum and instructional techniques to fulfill a new regulation allowing high school special education students to meet general education diploma requirements. Borough wide workshops were not well attended and only 62% of teachers indicated their knowledge had increased as a result of the workshop training. Seventy-four percent of participating teachers in the in-school training reported their knowledge of the training topics had increased and their interaction with mainstream staff had become more frequent. Among recommendations were the following: expand workshops to include more practical information and classroom applications; follow up workship training in the classroom; gear school level training activities and content to individual teachers' needs and expertise; and improve substitute coverage and per session compensation to increase teacher participation. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

STATE INCENTIVE GRANT TO
IMPROVE PUPIL PERFORMANCE
(HIGH SCHOOL COMPONENT)
1986-87

OEA Evaluation Report

EC 211293

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Robert Tobias

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

FINAL REPORT

October, 1987

Robert Tobias, Administrator
Judith Torres, Senior Manager

STATE INCENTIVE GRANT TO IMPROVE PUPIL PERFORMANCE (HIGH SCHOOL COMPONENT) 1986-87

Prepared by
Special Education
Evaluation Unit

Ronald C. Miller,
Evaluation Manager

Tomi D. Berney,
Evaluation Specialist

Michael Baker,
Denise Cantalupo, and
Lynn Mulkey,
Evaluation Associates

New York City Public Schools
Office of Educational Assessment
Richard Guttenberg, Director

It is the policy of the Board of Education not to discriminate on the basis of race, creed, national origin, age, handicapping condition, sexual orientation, or sex, in its educational programs, activities, and employment policies, as required by law. Any person who believes he or she has been discriminated against should contact: Carole Guerra, Local Equal Opportunity Coordinator, Office of Educational Assessment, 110 Livingston Street, Room 743, Brooklyn, New York 11201. Inquiries regarding compliance with appropriate laws may also be directed to: Mercedes A. Nesfield, Director, Office of Equal Opportunity, 110 Livingston Street, Room 601, Brooklyn, New York; or the Director, Office of Civil Rights, U.S. Department of Education, 26 Federal Plaza, Room 33-130, New York, New York 10278.

BEST COPY AVAILABLE

SUMMARY OF STATE INCENTIVE GRANT
TO IMPROVE PUPIL PERFORMANCE
(HIGH SCHOOLS 1986-87)

- The State Incentive Grant to Improve Pupil Performance was fully implemented in the high schools during the 1986-87 academic year. Special education teachers received training in borough-wide workshops as well as through school-level services.

- The percentage of participants giving a positive overall assessment to the workshops (Component 1) exceeded the program objective. However, the objective that participants would increase their knowledge was not met.

- The program virtually met all three school-level training (Component 2) objectives. Participants increased their knowledge, and both special education and general education staff increased their interaction with each other.

The State Incentive Grant to Improve Pupil Performance was designed to provide training for high school level special education teachers in general education curriculum and instructional techniques to fulfill New York State's new Part 100 Regulation mandating services that allow high school special education students to meet general education diploma requirements. The Division of Special Education (D.S.E.) and Division of High Schools (D.H.S.) administered the program. The program consisted of two components: workshop training (Component 1) and school-level training (Component 2).

The program objectives for Component 1 stated that 75 percent of participating teachers would report increased knowledge of workshop topics and an overall positive assessment of the workshops. The program objectives for Component 2 were that 75 percent of participating teachers would increase their knowledge of general education curricula and techniques and expand their interaction with general education staff; and that 75 percent of participating general education staff would increase their interaction with special education teachers.

The Office of Educational Assessment (O.E.A.) studied the implementation and outcomes of the program by interviewing a sample of workshop and school-level trainers and observing a sample of training sessions. O.E.A. assessed outcomes in the workshop component by collecting information about the quality of the workshops and the participants' perceptions of their increase in knowledge.

For the school-level component, O.E.A. examined the selection of participants and training content, assessed participants' perceptions of their increase in knowledge, and

evaluated changes in interaction between special education and general education staff.

In Component 1, although teachers were to select five out of 11 workshops, most teachers attended fewer than two. Consequently, only 62 percent of the teachers surveyed indicated that their knowledge had increased as a result of the workshop training, and this objective was not met. Over 75 percent of workshop participants asserted that information they received was relevant, and they gave the workshops an overall positive assessment. Thus, the program attained this objective.

Teachers and trainers, although generally favorable in their analysis of the workshops, did comment on the lack of suitability of some of the workshop topics due to the differing needs and experience of participants; they also reported difficulties with scheduling and the accessibility of the workshop sites. Participants wanted more emphasis on practical information and classroom applications, as well as follow-up activities in the classroom.

In Component 2, mainstream supervisors provided in-school training on a variety of topics and in a number of subject areas. Most of the trainers met regularly with participants. Fifty percent of the trainers questioned trained three or fewer teachers. Seventy-four percent of participating teachers indicated that their knowledge of the training topics had increased; 74 percent also indicated that their interaction with mainstream staff had become more frequent. The program, therefore, virtually met these two objectives. Eighty-five percent of mainstream trainers said that their interactions with special education staff had increased, exceeding this program objective.

The conclusions, based upon the findings of this evaluation, lead to the following recommendations:

- Expand workshops to include more practical information and classroom applications.
- Follow up workshop training in the classroom.
- Schedule workshops and in-school training at more convenient times and locations for both trainers and participants.
- Gear school-level training activities and content to individual teachers' needs and experience.
- Assign the special education assistant principal in each school to coordinate and monitor the training program.

- Improve substitute coverage and per session compensation to increase teacher participation.

ACKNOWLEDGEMENTS

Several individuals not listed on the title page were integral in conducting this evaluation. Veronica Mitta, Donna Plotkin, Jane Sholinsky and Veronika Raj made extensive visits to high schools. Veronica Mitta, in particular, assisted in analyzing general patterns of implementation. We would like to thank Gaylen Moore for her help in editing and Cindy Rosenberg for typing the drafts and final document.

TABLE OF CONTENTS

	PAGE
I. Introduction	1
II. Evaluation Methodology	5
III. Evaluation Findings For Training Workshops. . . .	11
IV. Evaluation Findings For School Level Training . .	19
V. Conclusions and Recommendations	29

LIST OF TABLES

		PAGE
Table 1:	Frequency Distribution of Number of Workshops Attended	14
Table 2:	Teachers' Perceptions of Quality of Training	17

I. INTRODUCTION

This report documents the Office of Educational Assessment's (O.E.A.'s) evaluation of the State Incentive Grant to Improve Pupil Performance (SIG) program in high schools for the year 1986-87. The Division of Special Education (D.S.E.) and the Division of High Schools (D.H.S.) established the program under a state funding grant for the purpose of enhancing the quality of instruction provided to students with handicapping conditions. The program included components for high school teachers, teachers in D.S.E. regional and Citywide programs, and paraprofessionals. This report addresses only the component for high school teachers.

New York State's new Part 100 regulations require that students with handicapping conditions receive the full range of programs and services appropriate to their needs, with instructional techniques and materials that allow them to meet general education diploma requirements. Because regulations mandate additional academic requirements and Regents Competency testing in new areas, it is essential that high school special education teachers be familiar with the content area materials, methods, and curricula of general education. The Mayor's Commission on Special Education, the Chancellor's Educational Steering Committee, and special education assistants to high school superintendents have identified a need for staff development in achieving these goals.

The staff development program consisted of two components: borough-wide workshops; and in-school staff training. Training

focused on developing special education teachers' knowledge of general education course content and methods to facilitate compliance with Part 100 regulations.

WORKSHOPS

D.H.S. developed 11 full-day workshop sessions focusing on topics of professional interest to special education teachers. Each workshop took place on two different dates from mid-October to June. D.H.S. expected teachers to attend five of the 11 training sessions. To accommodate the teachers expected to attend, D.S.E. chose training sites that could hold large numbers of people. These sites were different from teachers' regular school locations.

Special education trainers, experienced teachers, and a variety of outside presenters including vendors, agencies, and other professionals conducted the training.

SCHOOL-LEVEL TRAINING

The SIG planners designed the training program in the school to enable general education staff knowledgeable in specific content areas to train special education who were responsible for teaching those same areas. SIG provided a 0.2 unit allocation to relieve the general education trainer from one class period daily to conduct the training. General education trainers were to familiarize special education teachers with the scope and sequence of curriculum and teaching methods specific to the content area. The training was to provide a foundation for

greater communication between general education and special education staff.

D.H.S. proposed a basic model which called for releasing a general education assistant principal (A.P.) from teaching one course per day to conduct daily semester-long training sessions in one of four content areas (communication arts, mathematics, social studies, and science). The A.P. was charged by the superintendent's office with keeping a log of training activities. High School superintendents communicated this model to principals at all high schools with special education students and asked them to prepare a plan for the SIG training. This plan included the selection of a subject area, the preparation of general education staff to act as trainers, and a schedule for the training.

In the fall and in the spring, principals of all high schools with a special education population submitted staff development plans. The choice of content area, the selection of participants, and the nature of the activities varied according to the needs of the school. In identifying department needs, the planner either selected a content area and then determined which teachers in that the area should receive training, or the planner identified teachers who would benefit from training and selected content areas they taught. D.H.S. guidelines recommended consultation between the special education supervisor and general education trainers to ensure a cooperative

training effort. The responsibility for initiating such consultation lay with the trainer.

REPORT FORMAT

This report is organized as follows: Chapter II describes the evaluation methodology. Chapter III presents an analysis of the data for the workshop component. Chapter IV presents the findings for the school-level component of the program. Chapter V offers conclusions and recommendations based upon the results of the evaluation.

II. EVALUATION METHODOLOGY

PROGRAM OBJECTIVES

The goal of the SIG program was to provide training for special education teachers to enable them to teach courses parallel in content to the general education curriculum as mandated by New York State's Part 100 Regulation. The objectives of the program were:

Workshops

- Participating special education teachers would increase their knowledge of the general education curriculum as a result of the training.
- Participants would have a positive overall assessment of the workshops.

School-level Training

- Participating special education teachers would increase their knowledge of the general education curriculum as a result of the training.
- Both special education teachers and general education trainers would increase their interaction with each other.

EVALUATION QUESTIONS

For the workshop component, O.E.A. assessed the participants' perceptions of their increase in knowledge as a result of the workshops, and examined participants' satisfaction with various aspects of training.

For the school-level training, O.E.A. examined the selection of content area and participants, assessed participants' perceptions of their increase in knowledge as a result of the

training, and evaluated the changes in interaction between special and general education staff.

The evaluation included the following questions on program procedures and outcomes.

Procedures/Implementation

Workshops.

- What topics did the trainers cover?
- What modes of presentation did the workshops use?
- Did the teachers attend five workshops as proposed?

School-level training.

- On what basis were the content area and the participants selected?
- How were the training activities coordinated and monitored?
- What types of training activities took place?
- What was the effect of teachers' and trainers' daily schedules on planning and implementing training?

Outcomes

Workshops.

- Did teachers find the materials helpful?
- Did the teachers apply new knowledge to their daily instructional activities?
- Was the teachers' overall assessment of the training positive?

School-level Training.

- Did special education teachers increase their knowledge of the general education content area and teaching methods discussed?

- Did special education teachers report more frequent interaction with general education staff?
- Did general education trainers report more frequent interaction with special education teachers?

EVALUATION PROCEDURES

Instrumentation

Workshops. O.E.A. developed a Staff Development Survey to measure the participants' perceptions of the amount of knowledge they gained and their satisfaction with the workshops. Adapted from a standard survey form, O.E.A. asked participants to respond to survey questions on a six-point scale ranging from little knowledge (one), to extensive knowledge (six), or from little familiarity (one) to extensive familiarity (six).

Field consultants used O.E.A.-developed interview schedules to interview trainers and observation schedules to describe the training sessions. Consultants questioned trainers about the workshop activities, the perceived usefulness of the workshops to the participants, and their recommendations for future training activities.

School-level Training. O.E.A. consultants developed three evaluation instruments for the school-level training. They piloted these instruments at two high schools and revised them. The teacher survey documented the educational background and experience of special education teachers, the nature of the training they received, reported changes in their knowledge of content areas and instructional techniques, and reported change in their interaction with general education staff. Participants

responded to questions about changes in knowledge and staff interaction on a six-point scale ranging from very little knowledge or interaction (one) to extensive knowledge or interaction (six). Interview schedules for general education trainers and special education supervisors contained questions on planning, staff development activities, the effectiveness of the training, and changes in staff interaction within the school.

Sample

Workshops. The sample consisted of all teachers participating in seven workshops (out of a possible 22). These seven workshops represent one randomly chosen in each topic area after February when the field work for this project began. Consultants observed these seven workshops and conducted interviews with 23 trainers (including trainers of large and small sessions scheduled as part of some workshops).

School-level Training. The sample consisted of all special education teachers and general education trainers participating in the programs offered in 20 high schools. O.E.A. selected three comprehensive academic high schools and one vocational high school from each of the five superintendencies (Manhattan, Bronx, BASIS, Brooklyn and Queens). The sample was stratified by high schools with large and small special education staffs (10 to 46) and those which did and did not offer after-school activities as part of the training program. A total of 423 Special Education teachers taught at the 20 high schools in the sample and 231 (55 percent) participated in the SIG training conducted by their

school; 57 general education supervisors conducted the training at these schools. O.E.A. distributed surveys to all special education teachers participating in the fall or spring semester training. The survey response rate was 80 percent. Interviews were conducted with 54 of the 57 trainers.

Data Collection

Workshops. The workshop trainers administered the evaluation surveys at training sessions from February to June. O.E.A. field consultants observed workshops and conducted interviews during the same time period.

School-level Training. In June, O.E.A. field consultants visited the sample high schools where they conducted surveys and interviews with both the fall and spring program participants. They distributed teacher surveys to all teachers in the special education departments of those high schools. Field consultants interviewed 20 special education supervisors and 54 general education trainers.

Data Analysis

Workshops. O.E.A. computed response frequencies and calculated self-reports of knowledge before and after training, as recorded on the staff development surveys, and used a correlated *t*-test to determine the statistical significance of change in knowledge. O.E.A. examined responses to teachers' assessment of specific training workshops and to open-ended questions on both the interview and observation schedules.

School-level Training. O.E.A. field consultants coded responses to interviews with special education supervisors and general education trainers and prepared an analysis of the training program at each school in the sample. They compared data among schools to determine general patterns. Data from each trainer were coded and matched to the survey responses of the respective participating teachers. O.E.A. compared the response of teachers and their trainers in 1985-86 and 1986-87 concerning their perceptions of the change in interaction between general education A.P.s and special education teachers; consultants used a t-test to determine statistical significance of mean difference.

O.E.A. coded and tabulated teacher survey responses. They compared responses of participants in the training with responses of non-participating teachers. O.E.A. computed the perceived amount of knowledge gained by participants and used a t-test to determine statistical significance.

III. EVALUATION FINDINGS FOR TRAINING WORKSHOPS

IMPLEMENTATION

The SIG program provided full-day training workshops for high school special education teachers. These workshops included methodologies and techniques for teaching courses to special education students parallel to the general education curriculum in compliance with New York State's Part 100 Regulations.

Workshop Format

The format of all workshops was similar. The entire group of special education teachers scheduled for a workshop session met for an introductory lecture, after which the participants divided into small-group training sessions they had selected previously. Topics at the small-group sessions were related to those covered in the large group but were more specific and closely related to the participants' day-to-day activities. The sessions combined lecture, demonstration, and discussion.

Participants could choose five of the following workshops: Transitioning, Reading for the Special Needs Student, The Writing Process, Houses: Family Groups in the School Setting, Strategies for Modifying High School Curriculum for Special Needs Students, Computer Education and Assistance, Implementation of Life Skills Program, Office of Vocational Rehabilitation, Instructional Materials, and Teaching LEP Students.

O.E.A.'s observations indicated that the information and activities presented were seen as relevant and prompted a

favorable response from most program participants. The hands-on, small group activities stimulated discussion and were effective. Consultants observed that individual presenters were articulate and well informed. Trainers distributed a wide variety of materials, both in large- and small-group sessions. Participants received agendas, research articles, and other literature in support of what they were discussing. They collected materials and descriptions of lessons for actual use with their classes. They received information on how to assess the readability levels of books, how to use the Individualized Education Plan (I.E.P.) information, and other types of printed material.

O.E.A. consultants observed that there were several problems with the workshops. The brevity of the small-group workshops limited their effectiveness. In addition, some of the theoretical information presented was not geared to the participants' needs. A more practical approach to instructional strategies, one which demonstrated a potential student benefit and provided materials for classroom follow-up would appear to be more useful.

Scheduling

D.H.S. program planners proposed that teachers attend five workshops during the school year. However, O.E.A. field consultants noted that workshop attendance was frequently lower than anticipated and almost all teachers they interviewed reported they had attended fewer than three workshops. They gave a wide variety of reasons for their non-attendance: lack of

interest in workshop topics, location of workshops, inability to obtain substitute coverage, refusal of the principal to allow them to attend workshops, scheduling of workshops at inconvenient times (e.g. times when they felt they could not relinquish their class to a substitute teacher).

In the school-level-training evaluation survey, O.E.A. asked these teachers to indicate which workshops they attended. In June, 40 percent of teachers surveyed in the school training sample reported that they did not attend any workshops at all. (See Table 1.) Only 20 percent attended more than two.

Trainer Perceptions

Trainers reported that a number of workshop elements were particularly effective. The alternate educational strategies, educational resources available from agencies and vendors, methods of instruction for limited English proficient (LEP) students, text evaluation techniques, and computer experience were all perceived as being particularly useful to participants. Additionally, trainers stated that the teachers acquired functional knowledge in a number of areas including the holistic approach, integrating reading and writing, assessment techniques, transitioning, and utilizing student motivation.

Although trainers perceived this year's training to be generally beneficial, they suggested that future training should include more practical information and classroom applications, behavior modification techniques, bilingual instruction, and extensive follow-up in the classroom.

Table 1

Frequency Distribution of Number of Workshops Attended (N = 335)

Number of Workshops Attended	Number of Responses	Percentage of Teachers Responding	Cumulative Percent
7	1	0.3	0.3
6	1	0.3	0.6
5	6	1.8	2.4
4	17	5.1	7.5
3	41	12.2	19.7
2	64	19.1	38.8
1	71	21.2	60.0
0	134	40.0	100.0

Source: School Training Teacher Survey, administered in June.

- The majority of teachers attended no more than one workshop.
- The average number of workshops attended was 1.3.
- Forty percent did not attend any workshops.

Trainers expressed a few reservations about the organization of the program. Like the teachers, they felt that the scheduling and location of the workshops prevented teachers from receiving training appropriate to their needs. In scheduling workshops, planners did not appear to take into consideration other demands placed on teachers' time. For example, one workshop was scheduled during Regents exam week; workshop attendance was low because no substitute coverage was permitted at that time. Although planners made efforts to accommodate all the participants' interests, administrators assigned some teachers to workshops they reported were not relevant to their daily responsibilities. Because transportation to training sites was inconvenient, other participants chose to attend workshops based solely on their geographical proximity.

OUTCOMES

Participating teachers assessed the effectiveness of the workshops by reporting on changes in their own knowledge and on attitudes about various characteristics of the program.

A program objective for all high school teachers participating in the workshop training was:

- Seventy-five percent will indicate that their knowledge of the workshop topics has increased.

About 62 percent of the 612 teachers completing this question on the staff development survey indicated that they increased their knowledge of the workshop topics. Hence, the

objective was not attained. The teachers' perceptions of the amount of training-related knowledge they possessed before and after training increased from a mean of 3.6 to a mean of 4.6 on the six-point scale. The mean gain of 1.0 (S.D. = 1.4), based on the average of individual gains, was statistically significant ($p < .05$). The effect size,* computed to denote the importance of the gain was .71, indicating that the increase in knowledge was moderately meaningful.

A second evaluation objective for determining the program's success was:

- Seventy-five percent of participating teachers will indicate that they have a positive overall assessment of the workshops as shown by their selection of four through six on the six-point scale on the relevant questions of the staff development questionnaire.

In sum, 626 teachers rated program factors on the staff development survey's six point scale. The percent of teachers assigning a value of four, five, or six (those values judged to be positive) ranged from a low of 71.3 (applicability of what was learned) to a high of 82.6 (overall assessment of training). All factors were above the 75 percent criterion except for the item on the applicability of what was learned. (See Table 2.) The

---

*The effect size, developed by Jacob Cohen, is a ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. Effect size (E.S.) is interpreted to indicate importance or meaningfulness of a change, and an E.S. of .80 is thought to be highly meaningful, while one of .2 is considered to be only slightly so.

Table 2

Teachers' Perceptions of Quality of Training

	Mean Rating	S.D.	Percent Showing Positive Response[a]
Relevance of workshop information to professional responsibilities N = 626	4.6	1.3	78.6
Sufficiency of opportunities to ask questions and present ideas N = 615	4.7	1.4	79.1
Helpfulness of materials used in presentation N = 613	4.7	1.3	81.3
Applicability of what was learned to daily activities N = 613	4.5	1.3	71.3
Overall assessment of training N = 613	4.6	1.2	82.6

Source: Staff Development Questionnaire

[a]Ratings of 4,5,6 indicate a positive response.

- Over 75 percent of responding teachers found that the workshops were relevant, offered sufficient opportunity to participate, and utilized helpful materials.
- Almost 83 percent of respondents gave the workshops an overall positive assessment.

mean scores for each of the areas ranged from 4.5 (applicability of what was learned) to 4.7 (opportunity to ask questions and helpfulness of materials).

In the teacher survey completed during the evaluation of the school-level training, teachers indicated which of the eleven workshops they attended and whether they found them relevant. Respondents indicated that topics directly related to the special needs student were very relevant to their professional responsibilities, while other topics were less applicable to their daily activities.

IV. EVALUATION FINDINGS FOR SCHOOL-LEVEL TRAINING

IMPLEMENTATION

The basic model for the school training proposed by D.H.S. called for relieving a general education assistant principal (A.P.) from teaching one course during the day to conduct daily, semester-long training in one of four content areas (Communication Arts, Mathematics, Social Studies, and Science). A 0.2 budget allocation would be provided to the school for this purpose. The general education A.P. was to be a trainer, not a supervisor to the special education teachers and was to keep a log recording training activities. High school principals were required to prepare a plan for the training on this model, to be submitted to their superintendent.

Planning

Principals submitted the plans for the fall semester training between late September and November. They identified curriculum areas for the training, general education supervisors or their designees who would conduct the training, and determined whether the training would include per session activities. Some plans also identified the special education teachers participating in the training and outlined the training schedule.

Principals usually delegated the identification of training needs to the special education supervisor. In 20 percent of the sample schools, general and special education supervisors were jointly responsible for planning. Only in two small schools

where the special education supervisor was itinerant did they have no primary responsibility for planning.

Recruitment. Special education and general education supervisors interviewed at the sample schools reported that recruitment of trainers and participants followed one of two patterns: the planner identified a content area for training and then determined which teachers teaching the subject should participate; alternatively, teachers needing training were identified, with the content area determined by the subjects they taught.

Of the 57 school-level training programs in the 20 schools sampled, 36 followed the first pattern of selecting an important curriculum area. Science was the subject area most frequently selected on this basis. When recruitment followed this pattern, about half the programs required all special education teachers teaching the subject to participate in the training, while about half the programs selected teachers perceived to have the greatest need for training.

When schools followed the second pattern of recruitment, based on teacher needs rather than curriculum area, almost none of the schools required all subject area teachers to participate. Twenty-one programs followed this pattern of recruitment: 15 programs selected teachers with the greatest need for training, and six programs invited interested teachers to volunteer for the training.

Scheduling. Planning for the fall semester began after the

start of the school year; consequently, teachers' schedules were already set. Schools addressed the problem of matching trainers' schedules to those of the special education teachers in one of three ways: conducting the same training session at different times on a one-to-one basis; limiting participation to those teachers who had a free period at the same time as the trainer; or relying largely on after-school per session activities.

Program Activities

Training. Almost all the trainers interviewed reported that they conducted a wide variety of activities in training special education teachers. These activities included recommending (and providing) books and materials, observing the teachers, enabling special education teachers to observe demonstration lessons or visit mainstream classes, and meeting with both individual teachers and with small groups of teachers for general discussions both during and after school.

The content of the training varied according to the trainer and the curriculum area. In curriculum areas already integrated in the special education curriculum, such as reading and mathematics, trainers focused less on content and more on instructional strategies. In science and social studies, subjects new to the special education curriculum, trainers focused more specifically on content.

A majority of trainers indicated that they worked with teachers on fundamental teaching skills such as lesson planning,

student motivation, classroom management, and testing methods, skills not necessarily related to a specific general education curriculum area. The remaining trainers indicated that they trained special education teachers in the substance of the general education curriculum.

A number of trainers focused on specific teaching techniques that were curriculum-related as well. Trainers in communication arts and social studies reported focusing on methods of improving student reading and writing skills, often with the purpose of improving student achievement on Regents Competency Tests in these areas. In math, trainers discussed the use of critical thinking techniques. In science, trainers emphasized the introduction and use of laboratory equipment and the development of demonstration laboratory experiments. Several trainers discussed the use of computers in teaching math, science and English, and the availability and merits of various software.

Almost all trainers met with the 231 training participants on a regularly scheduled basis, averaging at least once a week. Fifty percent of the trainers in the sample trained three or fewer teachers; 25 percent of the sample trained all of their special education teachers during the two semesters; 40 percent trained fewer than half the teachers in their school. Participation in the sample schools was greater during the spring semester (198 participants) than the fall semester (149 participants).

Coordination and Monitoring

The D.H.S. model called for consultation between the special education supervisor and general education trainers, but did not specify responsibility for the coordination and monitoring of the SIG training program at the school. Although special education supervisors were primarily responsible for planning, they were not included in training activities or even in conducting joint observations in about three-quarters of the schools in the sample. In many schools consultation between the trainer and the special education supervisor did not go beyond an initial discussion of participants and scheduling.

While D.H.S. guidelines called for the trainer to maintain a log, log maintenance varied considerably among schools and trainers. Thirteen of the trainers interviewed in June (23 percent) were unable to provide copies of their logs. Some trainers had not completed recording activities that occurred earlier in the spring semester while others failed to keep a log at all. Trainers' logs were not always standard within a borough or even a school, varying in detail from a two-page summary of the semester training, to lengthy reports on each session. In some boroughs, trainers sent logs to the superintendent's office, while in others logs never left the sites.

Difficulties of Program Implementation

General education trainers' workload. In many schools, general education A.P.s who supervised large departments (or several small departments) were only teaching the mandated

minimum of one period a day and could not be relieved from teaching. Some school plans called for using unit allocations as per session payments to allow A.P.s to complete the administrative tasks postponed in favor of the one period of daily training they conducted after school. Other plans designated an experienced general education teacher to substitute for the A.P. in conducting the training. Of the 54 trainers interviewed in the sample, 35 were department heads or supervisors, and 19 were teachers. In three cases, supervisors and teachers shared the training responsibilities. Almost half of the trainers interviewed identified lack of time and scheduling as the major problems in the training.

Per-session activities. Nine of the 57 training programs in the sample took place largely or entirely after school. Several trainers felt that holding several after-school sessions was important to provide flexibility in scheduling and an opportunity for teachers to gather as a group. However, most trainers felt that after-school sessions should be limited.

Problems with after-school training reported by special education supervisors and trainers included: (1) a conflict with other per-session activities; (2) teachers received inequitable compensation for participating; i.e., teachers attending per session training were compensated while those at schools without per session training sessions were not; (3) teachers with other commitments found it difficult to attend after-school sessions. When asked what changes in scheduling they would suggest for the

future, 23 percent of the trainers recommended scheduling a common free period during the school day for trainers and teachers participating in the program.

Teacher participation. Participation in the majority of the programs appeared to be moderate to high. Participation appeared to be highest in programs focusing on new curriculum (e.g. science and social studies) and on new techniques (e.g. the use of computers in teaching). Some trainers reported problems in attendance on the part of experienced special education teachers, particularly when the training concerned fundamental teaching methods. These teachers were reported to believe that training geared to teaching fundamentals suggested a lack of professional ability on their part. To remedy this, some experienced special education teachers expressed an interest in sharing their knowledge with other special education or general education teachers as part of the program.

Monitoring. Many trainers expressed strong resistance to maintaining logs, claiming that it was a substantial additional burden on their time. Some indicated that the log was more suited to regularly scheduled activities than to frequent, short, and often spontaneous interactions between trainers and teachers (e.g., occasionally dropping in to observe the teacher's class, or discussing problems with teachers in their office or over lunch).

There was no designated coordinator at the site to monitor the school's SIG training programs. When problems arose

concerning teacher participation or trainer schedules that interfered with implementing the training program, there was no one clearly responsible for finding a solution.

OUTCOMES

Increase in Knowledge. A program objective for school-level training was:

- Seventy-five percent of the participants will indicate that their knowledge of the general education curriculum and instructional techniques has increased.

Seventy-four percent of the 116 teachers surveyed in the school-level evaluation reported an increase in knowledge as a result of the training. Thus, the evaluation objective was virtually met.

According to O.E.A.'s analysis, the amount of knowledge teachers gained was related both to the regularity of the training received and their years of teaching experience. SIG participants who stated that their training was occasional showed an average increase of 0.8 (S.D. = .88) on a six-point scale. SIG respondents who received regular training showed an increase of 1.5 (S.D. = 1.1). The difference in the amount of knowledge acquired by participants who received occasional training and those who received regular training was statistically significant ($p < .05$). Teachers with more than two years experience gained 1.1 points in knowledge (S.D. = 1.21). Teachers with less than two years experience gained 1.6 points (S.D. = 0.95). The difference between the two groups in the knowledge acquired was

also statistically significant ($p < .05$).

Increase in Staff Interaction. A second program objective for teachers receiving in-school training was:

- Seventy-five percent of participating special education teachers will indicate that they have increased their interaction with the general education staff.

Teachers reported on how often they discussed students, curriculum, materials, or teaching techniques with general education staff previous to, and during the 1986-87 academic year. Seventy-four percent of the 110 participants who answered this question on teacher surveys indicated that they interacted more with general education staff in the current year. Thus, the objective was virtually met.

Increase in Trainer Interaction. The third program objective for the school-level training was:

- Seventy-five percent of the participating general education staff will indicate that they have increased their interaction with special education teachers.

Trainers identified, on a six-point scale, the level of their interaction with special education teachers before and after they conducted the training. Eighty-five percent of the 53 trainers interviewed reported that their level of interaction with special education teachers had increased; 78 percent reported that their interaction with their schools' special education supervisor had increased. In addition, 80 percent of the trainers reported that the level of interaction with special

education staff after the training was high (4,5, or 6 on a six-point scale). The evaluation objective was attained.

Thus, the fundings indicate that the school-level training component of the high school SIG program met all three objectives.

V. CONCLUSIONS AND RECOMMENDATIONS

The 1986-87 State Incentive Grant to Improve Pupil Performance program for high schools was successfully implemented. High school special education teachers received training to aid them in teaching courses parallel to the general education curriculum as required by the Part 100 Regulations, facilitating the opportunity of special education students to meet graduation requirements.

Interviews with the workshop and school-level trainers and surveys completed by teacher participants indicated that the services offered enabled the program to meet most of its objectives.

WORKSHOPS

O.E.A. observed that the training materials were appropriate, the information relevant, and the presentation utilized effective hands-on activities. Trainers reported that workshops presenting alternative educational strategies, educational resources, text evaluation techniques, LEP instruction, and computer education were particularly effective.

Almost 83 percent of special education teachers participating in the workshops rated the training favorably. They found the workshops relevant to their professional duties and the materials helpful. Thus, one of the program objectives was met. Many more teachers found the workshops relating specifically to special education to be more relevant than

workshops discussing topics such as computers and LEP instruction. Thus, overall, less than 75 percent of the participants found the workshops applicable to their daily activities.

The knowledge objective was not achieved. Only 62 percent of the teachers perceived their knowledge of general education curriculum and strategies to have increased as a result of the workshops. The most obvious reason why this objective was not achieved was poor attendance. Almost all of the participants reported attending fewer than three of the proposed five workshops. Trainers and teachers cited the geographical location of the workshops, scheduling conflicts, lack of interest in the topics, and inadequate substitute coverage as reasons for the low attendance. Trainers felt these factors prevented special education teachers from receiving the training that was applicable to their needs. Thus, although the participants had high opinions of the workshops, they did not attend enough of them to register more than a moderate impact on knowledge.

Trainers and participants both requested more practical information and classroom applications such as behavior modification techniques, as well as follow-up in the classroom.

SCHOOL-LEVEL TRAINING

This component virtually met all three program objectives. Almost 75 percent of special education teachers increased their knowledge of the general education curriculum and instructional strategies. Both special education and general education staff

increased their interaction with each other, although more of the general education staff reported increased interaction with their special education colleagues than vice versa.

A factor that may have contributed to limiting the interaction of special education teachers with the general education staff was that they had no assigned role in the training program. They did not attend training activities or conduct observations, nor did they maintain communication with the general education trainers as the training proceeded.

Participation was highest in the training sessions that focused on new curriculum (e.g. science and social studies) and new teaching techniques (e.g. the use of the computer), both areas in which special education teachers had less experience. Training sessions concerning fundamental teaching techniques were less well-attended, particularly by experienced teachers who perceived them to be below their professional abilities.

Participation was also limited by the training schedule. Conflicts in trainers' and participants' schedules obligated trainers to schedule activities after school which conflicted with participants' other commitments.

Another problem was the lack of a coordinator at the school level to monitor the delivery and content of training, and solve problems as they arose.

Based on these conclusions, O.E.A. offers the following recommendations:

- Expand workshops to include more practical information and classroom applications.

- Follow up workshop training in the classroom.
- Schedule workshops and in-school training at more convenient times and locations for both trainers and participants.
- Gear school-level training activities and content to individual teachers' needs and experience.
- Assign the special education Assistant Principal in each school the role of coordinating and monitoring the training program.
- Improve substitute coverage and per-session compensation to increase teacher participation.